

FIG. 1A

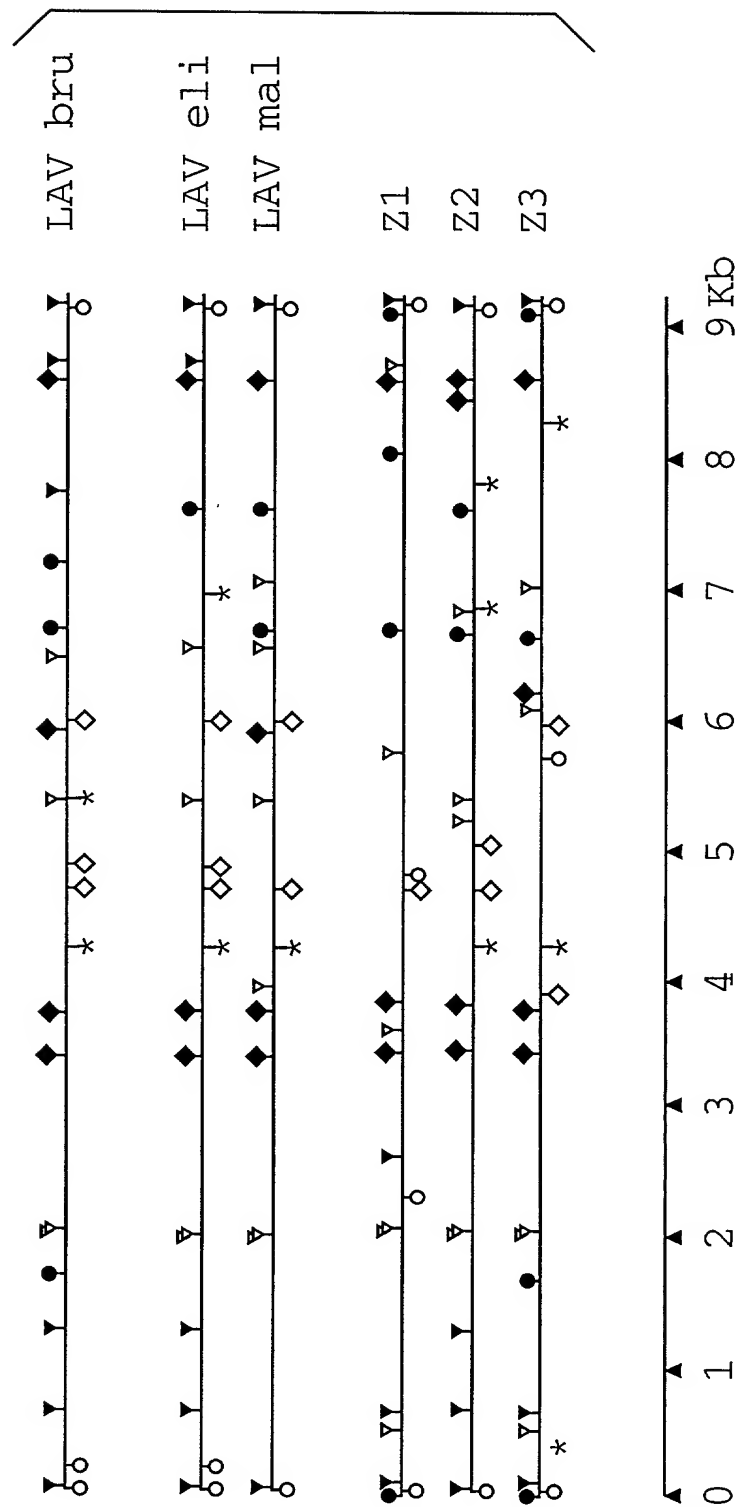


FIG. 1B

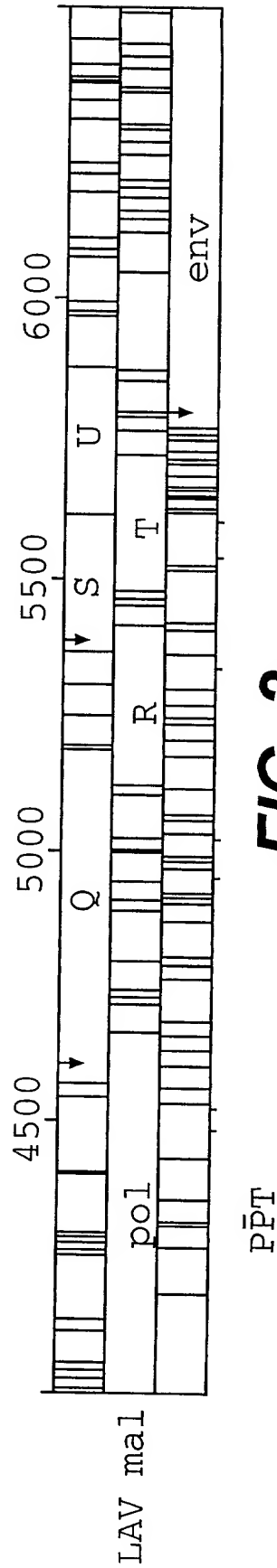
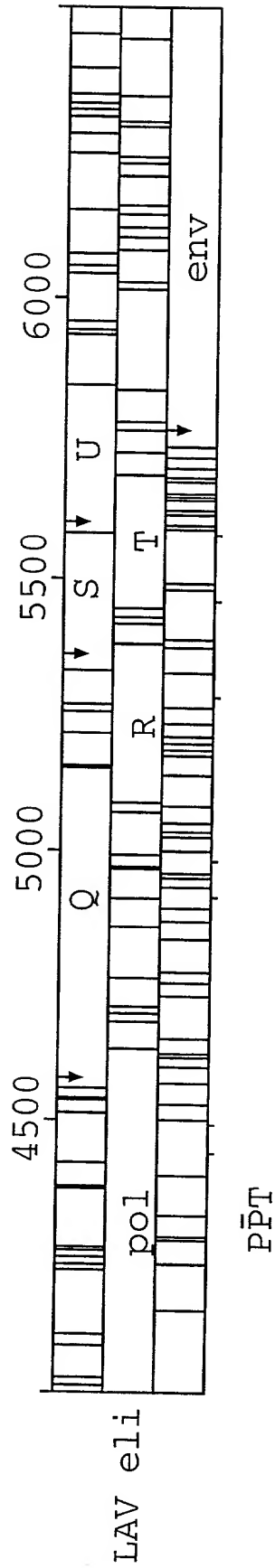
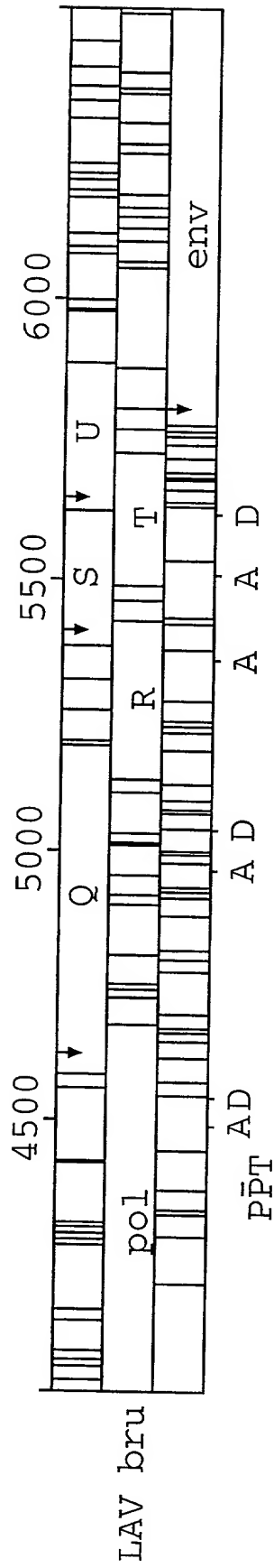


FIG. 2

	10	20	30	40	50	60	70	80
GAG								
LAV BRU	MGARASVLSG	GELDRWEKIR	LRPGGKKKKYK	LKHIVWASRE	LERFAVNPGL	LETSEGCRQI	LGQLQPSLQT	GSEELRSLYN
ARV 2		K						
LAV MAL	K A		R L	L	C Q	ME	ST K	IK
LAV ELI	K K		R	Y L	K I	AI	T	
					↓p25			
	90	100	110	120	130	140	150	160
LAV BRU	TVATLYCVHQ	RIEIKDTKEA	LDKIEEEQNK	SKKKAQQAAA	-----DTGH	SSQVSNYPY	VQNIQGMVH	QAISPRTLNA
ARV 2	DV	E		-----AAG	N	L		
LAV MAL	DV		I	RQ T	AQQAAAA	KN S	A I	
LAV ELI	K G DV	E M		-----	N N	L		
	170	180	190	200	210	220	230	240
LAV BRU	WVKVVEEKAF	SPEVIPMFSA	LSCGATPQDL	NTMLNTVGGH	QAAMQMLKET	INEEAAEFWDK	VHPVHAGPIA	PGQMRPRGS
ARV 2								
LAV MAL	I		M I	D	D	P		
LAV ELI	I				L			
	250	260	270	280	290	300	310	320
LAV BRU	DIAGTTSTLQ	EQIGWMTNNP	PIPVGEIYKR	WIILGLNKIV	RMYSPTSILD	IRQGPKEPFR	DYVDRFYKTL	RAEQASQEVK
ARV 2								D
LAV MAL	S	D		V	F	T		
LAV ELI	A S	S	V	V	D			

FIG. 3A-1

	330	340	350	360	370	380	390	400
LAV BRU	NWMTETLLVQ	NANPDCKTIL	KALGPAATLE	EMMTACQGVG	GPGHKARVLA	EAMSQVTNS-	ATIMMQGNF	RNQRKIVKCF
ARV 2						P- N		T
LAV MAL			G		S	A T A		KG - RI
LAV ELI			Q		S	A V T A		KGP I
	410	420	430	440	450	460	470	480
LAV BRU	NCGKEGHAR	NCRAPRKKGC	WKCCKEGHOM	KDCTERQANF	LGKIWPSYKG	RPGNFLQSRP	EPTAPPFLQS	RPEPTAPPEE
ARV 2	K		R R					
LAV MAL	L				H			-----A
LAV ELI	K		R	L	R			-----A
	490	500	510					
LAV BRU	SFRSGVETTT	PSQKQEPIDK	ELYPLTSLRS	LFGNDPSSQ				
ARV 2	F E K							
LAV MAL	GF E IK-	QK	A K	QL				
LAV ELI	GF E I -	QK	K	L				

FIG. 3A-2

CENTRAL REGION: Q		10	20	30	40	50	60	70	80
LAV BRU	MENRWQVMIV	WQVDRMRIRT	WKSLVKHHMY	VSGKARGWFY	RHHYESPHR	ISSEVHIPLG	DARLVITTYW	GLHTGERDWH	
ARV 2				I K K	T V	K			E
LAV MAL			H	K KN	R K V		VR	Q K	
LAV ELI		K		K NR	K	E	K		E
LAV BRU	LGQGVSIWR	KKRYSTQVDP	ELADQLIHLY	YDFCFSDSAI	RKALLGHIVS	PRCEYQAGHN	KVGSLOYLAL	AALITPKKIK	
ARV 2	A	K	G	H	KN I YR				T
LAV MAL	H	Q	L D	E	Q I	D		T A	TR
LAV ELI		R	G	M	I D			T A	Q
LAV BRU	PPLPSVTKLT	EDRWNKPQKT	KGHRGSHTMN	GH					
ARV 2	K								
LAV MAL	R		Q						
LAV ELI	R		Q R						

FIG. 3B-1

R		10	20	30	40	50	60	70	80
LAV BRU	MEQAPEDQGP	QREPHNEWTL	ELLEELKNEA	VRHFPRWLH	GLGQHIYETY	GDTWAGVEAI	IRILQQLLFI	HFRIGCRHSR	
ARV 2		Y	R	P	S	Y			Q
LAV MAL	A		Q		S		E	S	Q
LAV ELI	A	Y	A	S	S		V		Q
90									
LAV BRU	IGVTQQRARR	-NGASRS							
ARV 2	II	R							
LAV MAL	I R	-	S						
LAV ELI	IIR	-	S						
S (tat)									
		10	20	30	40	50	60	70	
LAV BRU	MEPVDPRLPE	WKHPGSQPKT	ACTTCYCKKC	CFHCQVCFTT	KALGISYGRK	KRRQRRRPQ	GSQTHQVSLS	KQ	
ARV 2	N		R	NN	YA	R	G	A	D
LAV MAL	D	N	N	P	NK	Y	M	I	G
LAV ELI	D	N	N	P	NK	H	Y	P	LN
									G
									N
									A
									D
									P
									P
									E
									P
									P
									PIP

FIG. 3B-2

POL	10	20	30	40	50	60	70	80
LAV BRU	FFREDLAFLO	GKAREFSSEQ	TRANSPTR	RELQVGRDN	NSLSEAGADR	QGTVSFNFPQ	ITLWQPLVT	
ARV 2			---	-----	GE			
LAV MAL	N P	P	---	-----S	R G - KT	T E I S	V	
LAV ELI	N P	G L PK	---	-----S	R - P KT	E E	A	
LAV BRU	90	100	110	120	130	140	150	160
ARV 2	IKIGGQLKEA	LDDTGADDTV	LEEMSLPCRW	KPKMIGGIGG	FIKVRQYDQI	LIEICGHKAI	GTVLVGPTPV	NIIGRNLLTQ
LAV MAL	R		N K		PV		I	M
LAV ELI	VRV		IN K		P	Q		
LAV BRU	170	180	190	200	210	220	230	240
ARV 2	IGCTLNFPIS	PIETVPVKLK	PGMDGPKVKQ	WPLTEEKIKA	LVEICTEMEK	EKGISKIGPE	NPYNTPVFAI	KKKDKTKWRK
LAV MAL			R		T KD	L		
LAV ELI					T D	R	I	
LAV BRU	250	260	270	280	290	300	310	320
ARV 2	LVDFRELNKR	TQDFWEVQLG	IPHPAGLKKK	KSVTVLDVGD	AYFSVPLDED	FRKYTAFTIP	SINNETPGIR	YQYNVLPQGW
LAV MAL					K			
LAV ELI							S	

FIG. 3C-1

LAV BRU	330	340	350	360	370	380	390	400
ARV 2	KGSPAIFQSS	MTKILEPFRK	QNPDIYIYQ	MDDLVGSDL	EIGQRTKIE	ELRQHLLRWG	LITPDKKHQK	EPPFLMMGYE
LAV MAL		T K E			E K F			
LAV ELI		EM			K E	F R		
LAV BRU	410	420	430	440	450	460	470	480
ARV 2	LHPDKWTVQP	IVLPEKDSWT	VNDIQKLVGK	LNWASQIYPG	IKVRQLCKLL	RGTKALTEVI	PLTEEALELEL	AENREILKEP
LAV MAL		M		A	K			
LAV ELI		Q D E			K	A DIV	A	
		S K E	N ER					
LAV BRU	490	500	510	520	530	540	550	560
ARV 2	VHGVVYDPSK	DLIAEIQKQG	QGQWYQIYQ	EPFKNLKTGK	YARTRGAHTN	DVKQLTEAVQ	KITTESIVIW	GKTPKFKLPI
LAV MAL		E			M		VS	I
LAV ELI				QY	IKS		AQ	R
			H		M	A R S	R	R

FIG. 3C-2

LAV BRU	570	580	590	600	610	620	630	640
ARV 2	QKETWETWWT	EYQATWIPE	WEFVNTIPLV	KLWYQLEKEP	IVGAETFFVD	GAASRETKLG	KAGVVTNRGR	QKVVTLTDTT
LAV MAL	A M					N	D	SIA
LAV ELI	A			T		N K	D	S E
					I	N	D	P
LAV BRU	650	660	670	680	690	700	710	720
ARV 2	NQKTELQAIH	LALQDSGLEV	NIVTDSQYAL	GIIQAQPKS	ESELVNQIIE	QIIKKEKVYL	AWVPAHKGIG	GNEQVDKLVS
LAV MAL					S			
LAV ELI		S			I	Q D	S	
LAV BRU	730	740	750	760	770	780	790	800
ARV 2	AGIRKVLFLD	GIDKAQDEHE	KYHSNWRAMA	SDFNLPPVVA	KEIVASCDKC	QLKGEAMHGQ	VDCSPGIWQL	DCTHLEGKVI
LAV MAL	N	E						I
LAV ELI	S	E		I				I
		E						
		E	N					
LAV BRU	810	820	830	840	850	860	870	880
ARV 2	LVAVHVASGY	IEAEVIPAET	GQETAYFLK	LAGRWPVKTI	HTDNGSNFTS	TTVKAACWMA	GIKQEFFGIPY	NPQSQGVVES
LAV MAL	I		I	VV	AA	N		
LAV ELI				VV	AA			

FIG. 3D-1

	890	900	910	920	930	940	950	960
LAV BRU	MNKLKKIIG	QVRDQAEHLK	TAVQMAVFIH	NFKRKGIGG	YSAGERIVDI	IATDIQTKEL	QKQITKIQNF	RVYYRDSRDP
ARV 2	N							KK
LAV MAL		E			I M			N
LAV ELI				RR	I		I	
	970	980	990	1000	1010			
LAV BRU	LWKGPAKLLW	KGEGAVVIQD	NSDIKVPPR	KAKIIRDYCK	QMAGDDCVAS	RQDED		
ARV 2								
LAV MAL	I				G G			
LAV ELI	I	K	V					

FIG. 3D-2

ENV

	SP			OMP		
	10	20	30	40	50	60
LAV BRU	MRVK---EKY	QHLWRWGKW	GTMLLGILMI	CSATEKLWVT	VYGVVPVKE	ATTILFCASD
ARV 2	K GTRRN	---	L M			AKAYDTEVHN
LAV MAL	REIQRN	NW	M T	IA D		
LAV ELI	ARGIERNC	NW K	---	I T	ADN	
LAV BRU	DPNPQEVVLV	NVTENFNMWK	NDMVEQMHEH	IISLWDQSLK	PCKVLTPLCV	SLKCTDL-CN
ARV 2	C	N	Q			ATNTNSSNTN
LAV MAL	IE E	G	N			SSSGEMME-
LAV ELI	IA E	N	N			T N - K
						RTNA LK I
						T N S E--L RN GTMG NV
						TTEEKG----
LAV BRU	KGEIKNCSEF	ISTSIRGKVQ	KEYAFFYKLD	IIPIDNDTTS	-----YLTLS	CNTSVITQAC
ARV 2		T D I	N L RN	VV	AS T	TNYTN R IN
LAV MAL	- V	TPVGSD R	- T N	LVQ	DSDN	----S R IN
LAV ELI	---M	VT VLKD K	QV L R	V	SST	-NSTN R IN
						A
LAV BRU	LKCNKKTIFNG	TGPCTNVSTV	QCTHGIRPVV	STQLLINGSL	AEEEEVIRSA	NFTDNAKTII
ARV 2		K	I			VQLNQSV EIN
LAV MAL	D K	EI K	K			ET T
LAV ELI	RD K					AH E K T
						A YQ Q
LAV BRU						
ARV 2						
LAV MAL						
LAV ELI						

FIG. 3E-1

LAV BRU	330	340	350	360	370	380	390	400
ARV 2	SIRIQGPGR	AFVTIGK-IG	NMRQAHCNIS	RAKWNATLKQ	IASKLREQFG	NNKT-IIFKQ	SSGGDPEIVT	HSFNCGGEFF
LAV MAL	Y --	W T RI	DI K	Q N E	VK	- V N	M	R
LAV ELI	G HF--	Q LY T I-V	DI R Y T N	ETE DK Q	V V GSSL-	K NS	T	R
	RTP --	L Q SLY	TKS-RS	IIG	Q SK Q V R	GTL--	- I K P	T
LAV BRU	410	420	430	440	450	460	470	480
ARV 2	YCNSTQLFNS	TWFNSTWSTE	CSNNTGSDT	ITLPCRIKQF	INMWQEVGKA	MYAPPISGQI	RCSSNITGLL	LTRDGGNN--
LAV MAL	T N	-----RLN	RTEG K N	I I	I	C S	S	T -V
LAV ELI	TSK	Q NGARL-	- S STGS	I	KT	A V N L	I	NSSD
	TSG	NI A NNI	TES NSTNTN	Q	I K VAGR-	ERN L	I	--
LAV BRU	490	500	510	520	530↓	540	550	560
ARV 2	NNGSEIFRPG	GGDMRDNRWS	ELYKYKVVKI	EPLGVAPTCA	KRRVVQREKR	AVGI-GALFL	GFLGAAGSTM	GARSMTLTVQ
LAV MAL	T DT V		I I	I	V M			V L
LAV ELI	SDN TL	I	R		E	I L-	M	A L
	STN T		Q	R	E	I L-	M	V

FIG. 3E-2

F	10	20	30	40	50	60	70	80
LAV BRU	MGKWSKSSV	VGWPTVRERM	R-----RAEPA	ADGVGAASR-	-----DLEKUG	AITSSNTAAT	NAACAWLEAQ	EE-EEVGFPPV
ARV 2	R M G SAI	RAEP		V - ----		D		-
LAV MAL	I	KI	I	-----TP T ET	V QD AVSQ	D C	AA SP N	S --- PP E
LAV ELI	I	AI	I	-----TM	V - ----		S D	SD
	90	100	110	120	130	140	150	160
LAV BRU	TPQVPLRRHT	YKAAVDLSHF	LKEKGGLEGL	IHSQRRQDIL	DLWIYUTQGY	FPDWQNYTPC	PGVRYPLTFG	WCYKLVPEP
ARV 2	R	L I		W E		I		F
LAV MAL	R	G F	D	VW PK E	V	I F		F HS
LAV ELI	R	E L		W KK E	V N I	I		E D
	170	180	190	200	210			
LAV BRU	DKVEEANKGE	NTSLILHPVSL	HGMDDPEREV	LEWRFDLSRLA	FHHVARELHP	EYFKNC		
ARV 2	E	N M	E A K	V K M		Y D		
LAV MAL	EE	NC	I Q	E A	K K S	LR R Q		Y D
LAV ELI	QE	DTE	TN	ICQ	E Q	K N	E K M	FY -

FIG. 3F-2

A LAVbru vs.		GAG		POL		ENV				
						TOTAL		OMP		TMP
HTLV-3 USA	512 0/0	0.8	1015 0/0	1.3	856 5/0	1.4	507 5/0	1.6	349 0/0	1.1
ARV-2 USA	502 12/2	3.4	1003 12/0	3.1	855 17/11	13.0	505 17/10	14.3	350 0/1	11.2
LAVeli ZAIRE	500 13/1	9.8	1002 13/0	5.5	853 22/14	20.7	504 22/14	25.3	349 0/0	13.8
LAVmal ZAIRE	505 14/7	12.0	1002 13/0	7.7	859 13/11	21.7	509 13/10	26.4	350 0/1	14.9
B LAVeli vs.										
LAVmal	505 1/6	10.8	1002 0/0	8.4	859 13/11	19.8	509 8/13	23.6	350 0/1	14.3

FIG. 4A

A LAVbru vs.		orf F	central region			
			orf Q		orf R	orf S
HTLV-3	USA	206 0/0	192 0/0	0	nd	80 0/0
ARV-2	USA	210 0/4	192 0/0	10.0 0/1	9.4	81 0/1
LAVeli	ZAIRE	206 1/1	192 0/0	10.4 0/0	11.5	80 0/0
LAVmal	ZAIRE	209 2/5	192 0/0	12.6 0/0	10.4	80 0/0
B						
LAVeli vs.						
LAVmal		209 3/6	192 0/0	12.0 0/0	96 0/0	80 0/0
		22.5	192 0/0	12.0 0/0	6.3	11.3

FIG. 4B

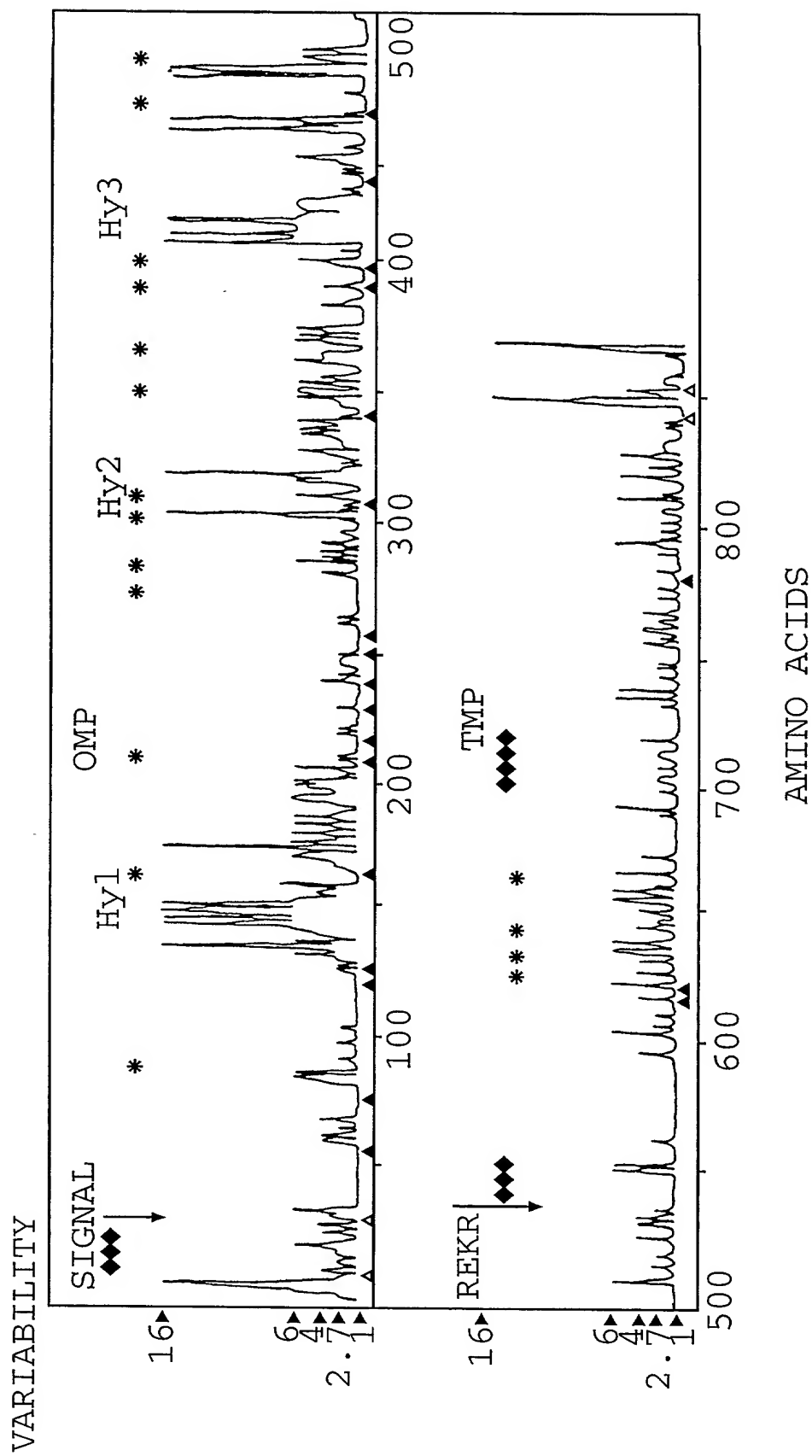


FIG. 5

GAG

a

120

LAV.BRU	K AAA	A GCA	Q CAG	Q CAA	A GCA	A GCT	-	-	-	-	-	D GAC	T ACA
ARV 2	K AAG	A GCA	Q CAG	Q CAA	A GCA	A GCT	A GCA	A GCT	-	-	-	G GGC	T ACA
LAV.MAL	K AAG	T ACA	Q CAG	Q CAG	A GCA	A GCT	A GCA	A GCT	Q GAG	Q GAG	A GCA	A GCT	T ACA
LAV.ELI	X AAG	A GCA	Q CAG	Q CAA	A GCA	A GCT	-	-	-	-	-	D GAC	T ACA

FIG. 6A-1

b

LAV.BRU	460												470												480											
G N	F L Q S R P E P T A P P												F L Q S R P E P T A P P												E E											
GGG AAT	TTT CTT CAG AGC AGA CCA GAG CCA ACA GCC CCA CCA												TTT CTT CAG AGC AGA CCA GAG CCA ACA GCC CCA CCA												GAA GAG											

ARV 2

G	N	F	L	Q	S	R	P	E	P	T	A	P	P													E	E
GGG	AAT	TTT	CTT	CAG	AGC	AGA	CCA	GAG	CCA	ACA	GCC	CCA	CCA	-	-	-	-	-	-	-	-	-	-	-	-	GAA	GAG

LAV.MAL

G	N	F	L	Q	S	R	P	E	P	T	A	P	P													A	E
GGG	AAT	TTC	CTT	CAG	AGC	AGA	CCA	GAG	CCA	ACA	GCC	CCA	CCA	-	-	-	-	-	-	-	-	-	-	-	-	GCA	GAG

LAV.ELI

G	N	F	L	Q	S	R	P	E	P	T	A	P	P													A	E
GGG	AAC	TTT	CTC	CAA	AGC	AGA	CCA	GAG	CCA	ACA	GCC	CCA	CCA	-	-	-	-	-	-	-	-	-	-	-	-	GCA	GAG

FIG. 6A-2

e ENV 20

LAV.BRU	Q CAG CAC TTG	L L	H H	W R W G	W K W G	T M L
		TTG	ACA	TGG GGC	TGG AAA TGG GGC	ACC ATG CTC
ARV 2	Q CAG CAC TTG	L L	H H	W R W G	- - -	T L L
		TTG	AGA	TGG GGC	- - -	ACC TTG CTC
LAV.MAL	Q CAA AAC TGG	N W	N W	R W G	- - -	M M L
		TGG	AGA	TGG GGC	- - -	ATG ATG CTC
LAV.ELI	Q CAA AAC TGG	N W	N W	K W G	- - -	T M L
		TGG	AAA	TCG GGC	- - -	ATC ATG CTC

f

LAV.BRU	L K C T D L L	G N	A T	N T N S S	N T N S S	S G E
	TTA AAG TGC ACT GAT TTG - GGG AAT GCT ACT	ACT	ACT	AAT ACC AAT AGT AGT	AAT ACC AAT AGT AGT	AGC GGG GAA
M M M E K G E I	ATG ATG ATG GAG - AAA GCA GAG ATA					
ARG 2	L N C T D L L	G K	A T	N T N S S	N T N S S	M
	TTA AAT TGC ACT GAT TTG - GGG AAG GCT ACT AAT ACC AAT AGT AGT					AAT
W K E E I K	AAA GAA GAA ATA	AAA GGA GAA ATA				

FIG. 6B-1

LAV.MAL

L	N	C	T	N	V	N	G	T	A	V	N	G	T	N	A	G	S	N	R	T	N	A	E
TTA	AAC	TGC	ACT	AAT	GTG	AAT	GGG	ACT	GCT	GTG	AAT	GGG	ACT	AAT	GCT	GGG	AGT	AAT	AGG	ACT	AAT	GCA	GAA

L K M E I G E V
TTG AAA ATG GAA ATT - GGA GAA GTG

LAV.ELI

L	N	C	S	D	E	L	R	N	N	G	T	M	G	N	N	V	T	T	E	E	K		
TTTA	AAC	TGT	AGT	GAT	GAA	-	-	TTTG	AGG	AAC	AAT	GGC	ACT	ATG	GGG	AAC	AAT	GTC	ACT	ACA	GAG	GAG	AAA

G
GGA - - - - - M
ATG

FIG. 6B-2

[illegible]

FIG. 6B-3

LAV.MAL

C N T S K L F N S T W Q N N G A R L S N S T E S
TGT AAT ACA TCA AAA CTG TTT AAT AGT ACA TGG CAG AAT AAT GGT GCA AGA CTA - - AGT AAT AGC ACA GAG TCA

T G S I
ACT GGT AGT ATC

LAV.ELI

C N T S G L F N S T W N I S A W N N I T E S N N S T
TGT AAT ACA TCA GGA CTG TTT AAT AGT ACA TGG AAT AAT AGT GCA TGG AAT AAT ATT ACA GAG TCA AAT AAT AGC ACA

N T N I
AAC ACA AAC ATC

FIG. 6B-4

LAV. MAL

→R
GGTCTCTCTTGTAGACCAGGTCGAGCCCCGGGAGCTCTCTGGCTAGCAAGGAACCCACTG
CTTAAGCCTCAATAAAGCTTGCCTTGAGTGCCTCAAGCAGTGTGTGCCCATCTGTTGTGT
GACTCTGGTAACTAGAGATCCCTCAGACCCTCTAGACGGTGTA AAAATCTCTAGCAGTG
GCGCCCGAACAGGGACTTTAAAGTGAAAGTAACAGGGACTCGAAAGCGGAAGTTCCAGAG
AAGTTCTCTCGACGCAGGACTCGGCTTGCTGAGGTGCACACAGCAAGAGGCGAGAGCGGC
GACTGGTGAGTACGCCAATTTTTGACTAGCGGAGGCTAGAAGGAGAGAGATGGGTGCGAG
AlaSerValLeuSerGlyGlyLysLeuAspAlaTrpGluLysIleArgLeuArgProGly
AGCGTCAGTATTAAGCGGGGAAAATTAGATGCATGGGAGAAAATTTCGGTTAAGGCCAGG
GlyLysLysLysTyrArgLeuLysHisLeuValTrpAlaSerArgGluLeuGluArgPhe
GGGAAAGAAAAATATAGACTGAAACATTTAGTATGGGCAAGCAGGGAGCTGGAAAGATT
AlaLeuAsnProGlyLeuLeuGluThrGlyGluGlyCysGlnGlnIleMetGluGlnLeu
CGCACTTAACCCTGGCCTTTTAGAAACAGGAGAAGGATGTCAACAAATAATGGAACAGCT
GlnSerThrLeuLysThrGlySerGluGluIleLysSerLeuTyrAsnThrValAlaThr
ACAATCAACTCTCAAGACAGGATCAGAAGAAATTAAATCATTATATAATACAGTAGCAAC
LeuTyrCysValHisGlnArgIleAspValLysAspThrLysGluAlaLeuAspLysIle
CCTCTATTGTGTACATCAAAGGATAGATGTAAAAGACACCAAGGAAGCGCTAGATAAAAT
GluGluIleGlnAsnLysSerArgGlnLysThrGlnGlnAlaAlaAlaAlaGlnGlnAla
AGAGGAAATACAAAATAAGAGCAGGC AAAAGACACAGCAGGCAGCAGCTGCACAGCAGGC
AlaAlaAlaThrLysAsnSerSerSerValSerGlnAsnTyrProIleValGlnAsnAla
AGCAGCTGCCACAAAAACAGCAGCAGTGTCAAGTCAA AATTACCCCATAGTGCAAAATGC
GlnGlyGlnMetIleHisGlnAlaIleSerProArgThrLeuAsnAlaTrpValLysVal
ACAAGGGCAAATGATACATCAGGCCATATCACCTAGGACTTTGAATGCATGGGTGAAAGT
IleGluGluLysAlaPheSerProGluValIleProMetPheSerAlaLeuSerGluGly
AATAGAAGAAAAGGCTTTCAGCCCAGAAGTGATACCCATGTTCTCAGCATTATCAGAGGG
AlaThrProGlnAspLeuAsnMetMetLeuAsnIleValGlyGlyHisGlnAlaAlaMet
GGCCACCCACAAGATTTAAATATGATGCTGAACATAGTTGGAGGACACCAGGCAGCTAT
GlnMetLeuLysAspThrIleAsnGluGluAlaAlaAspTrpAspArgValHisProVal
GCAATGTTAAAGATACCATCAATGAGGAAGCTGCAGACTGGGACAGGGTACATCCAGT
HisAlaGlyProIleProProGlyGlnMetArgGluProArgGlySerAspIleAlaGly
ACATGCAGGGCCTATCCCCCAGGCCAGATGAGAGAACCAAGAGGAAGTGACATAGCAGG

FIG. 7A

ThrThrSerThrLeuGlnGluGlnIleGlyTrpMetThrSerAsnProProIleProVal
 AACTACTAGTACCCTTCAAGAACAAATAGGATGGATGACAAGCAACCCACCTATCCCAGT
 1100
 GlyAspIleTyrLysArgTrpIleIleLeuGlyLeuAsnLysIleValArgMetTyrSer
 GGGAGACATCTATAAAAGATGGATAATCCTGGGATTAAATAAAATAGTAAGAATGTATAG
 1200
 ProValSerIleLeuAspIleArgGlnGlyProLysGluProPheArgAspTyrValAsp
 CCCTGTCAGCATTTTGGACATAAGACAAGGGCCAAAGGAACCTTTTAGAGACTATGTAGA
 ArgPhePheLysThrLeuArgAlaGluGlnAlaThrGlnGluValLysAsnTrpMetThr
 TAGGTTCTTTAAACTCTCAGAGCTGAGCAAGCTACACAGGAGGTAAAAAATTGGATGAC
 1300
 GluThrLeuLeuValGlnAsnAlaAsnProAspCysLysThrIleLeuLysAlaLeuGly
 AGAAACCTTGCTGGTCCAAAATGCGAATCCAGACTGTAAGACCATTTTAAAGCATTAGG
 ProGlyAlaThrLeuGluGluMetMetThrAlaCysGlnGlyValGlyGlyProSerHis
 ACCAGGGGCTACATTAGAAGAAATGATGACAGCATGCCAGGGAGTGGGAGGACCCAGTCA
 1400
 LysAlaArgValLeuAlaGluAlaMetSerGlnAlaThrAsnSerThrAlaAlaIleMet
 TAAAGCAAGAGTTTTGGCTGAGGCAATGAGCCAAGCAACAAATTCAACTGCTGCCATAAT
 1500
 MetGlnArgGlyAsnPheLysGlyGlnLysArgIleLysCysPheAsnCysGlyLysGlu
 GATGCAGAGAGGTAATTTTAAGGGCCAGAAAAGAATTAAGTGTTCACCTGTGGCAAAGA
 GlyHisLeuAlaArgAsnCysArgAlaProArgLysLysGlyCysTrpLysCysGlyLys
 AGGACACCTAGCCAGAAATTGCAGGGCCCCCTAGGAAAAAGGGCTGTTGGAAATGTGGGAA
 1600
 GluGlyHisGlnMetLysAspCysThrGluArgGlnAlaAsnPheLeuGlyLysIleTrp
 GGAAGGACACCAAATGAAAGACTGCACTGAGAGACAGGCTAATTTTTTAGGGAAAATTTG
 PhePheArgGluAsnLeu
 AlaPheProGlnGlyLysAlaArgGluPheProSerGluGlnThrArgAlaAsnSerPro
 ProSerHisLysGlyArgProGlyAsnPheLeuGlnSerArgProGluProThrAlaPro
 GCCTTCCCACAAGGGAAGGCCAGGGAATTTCTTCAGAGCAGACCAGAGCCAACAGCCCC
 1700
 ThrSerArgGluLeuArgValTrpGlyGlyAspLysThrLeuSerGluThrGlyAlaGlu
 ProAlaGluSerPheGlyPheGlyGluGluIleLysProSerGlnLysGlnGluGlnLys
 ACCAGCAGAGAGCTTCGGGTTTGGGGAGGAGATAAAACCCTCTCAGAAACAGGAGCAGAA
 1800
 ArgGlnGlyIleValSerPheSerPheProGlnIleThrLeuTrpGlnArgProValVal
 AspLysGluLeuTyrProLeuAlaSerLeuLysSerLeuPheGlyAsnAspGlnLeuSer
 AGACAAGGAATTGTATCCTTTAGCTTCCCTCAAATCACTCTTTGGCAACGACCAGTTGTC
 GAG
 ThrValArgValGlyGlyGlnLeuLysGluAlaLeuLeuAspThrGlyAlaAspAspThr
 Gln
 ACAGTAAGAGTAGGAGGACAGCTAAAAGAAGCTCTATTAGACACAGGAGCAGATGATACA
 1900
 ValLeuGluGluIleAsnLeuProGlyLysTrpLysProLysMetIleGlyGlyIleGly
 GTATTAGAAGAAATAAATTTGCCAGGAAAATGGAAACCAAAAATGATAGGGGGAATTGGA
 GlyPheIleLysValArgGlnTyrAspGlnIleLeuIleGluIleCysGlyLysLysAla
 GGTTTTATCAAAGTAAGACAGTATGATCAAATACTTATAGAAATTTGTGGAAAAAAGGCT
 2000

FIG. 7B

IleGlyThrIleLeuValGlyProThrProValAsnIleIleGlyArgAsnMetLeuThr
 ATAGGTACAATATTGGTAGGACCTACACCTGTCAACATAATTGGACGAAATATGTTGACT
 2100
 GlnIleGlyCysThrLeuAsnPheProIleSerProIleGluThrValProValLysLeu
 CAGATTGGTTGTACTTTAAATTTTCCAATTAGTCCTATTGAGACTGTACCAGTAAATTA
 LysProGlyMetAspGlyProArgValLysGlnTrpProLeuThrGluGluLysIleLys
 AAGCCAGGGATGGATGGCCCAAGGGTTAAACAATGGCCATTGACAGAAGAAAAATAAAA
 2200
 AlaLeuThrGluIleCysLysAspMetGluLysGluGlyLysIleLeuLysIleGlyPro
 GCATTAACAGAAATTTGTAAAGATATGGAAAAGGAAGGAAAATTTTAAAAATTGGGCCT
 GluAsnProTyrAsnThrProValPheAlaIleLysLysLysAspSerThrLysTrpArg
 GAAATCCATACAATACTCCAGTATTTGCCATAAAGAAAAAGACAGCACTAAATGGAGA
 2300
 LysLeuValAsnPheArgGluLeuAsnLysArgThrGlnAspPheTrpGluValGlnLeu
 AAATTAGTGAATTTTCAGAGAGCTTAATAAAGAACTCAAGATTTTTTGGGAAGTTCAATTA
 2400
 GlyIleProHisProAlaGlyLeuLysLysLysLysSerValThrValLeuAspValGly
 GGAATACCACATCCTGCTGGGTTGAAAAAGAAAAATCAGTCACAGTATTGATGTGGGG
 AspAlaTyrPheSerValProLeuAspGluAspPheArgLysTyrThrAlaPheThrIle
 GATGCATATTTTTTCAGTCCCTTTAGATGAAGATTTTCAGGAAGTATACTGCATTCACTATA
 2500
 ProSerIleAsnAsnGluThrProGlyIleArgTyrGlnTyrAsnValLeuProGlnGly
 CCCAGTATTAATAATGAGACACCAGGGATTAGATATCAGTACAATGTGCTACCACAGGGA
 TrpLysGlySerProAlaIlePheGlnSerSerMetThrLysIleLeuGluProPheArg
 TGGAAGGATCACCAGCAATATTCCAGAGTAGCATGACAAAAATCTTAGAACCTTT AGA
 2600
 ThrLysAsnProGluIleValIleTyrGlnTyrMetAspAspLeuTyrValGlySerAsp
 ACAAAAAATCCAGAAATAGTCATATACCAATACATGGATGATTTGTATGTAGGGTCTGAT
 2700
 LeuGluIleGlyGlnHisArgThrLysIleGluGluLeuArgGluHisLeuLeuLysTrp
 TTAGAAATAGGACAACATAGAACAAAAATAGAGGAACATAAGAGAACATCTATTGAAATGG
 GlyPheThrThrProAspLysLysHisGlnLysGluProProPheLeuTrpMetGlyTyr
 GGATTTACCACACCAGACAAAAAGCATCAGAAAGAACCCCATTTCTTTGGATGGGGTAT
 2800
 GluLeuHisProAspLysTrpThrValGlnProIleGlnLeuProAspLysGluSerTrp
 GAACTCCACCCTGACAAATGGACAGTGCAGCCTATACAACTGCCAGACAAGGAAAGCTGG
 ThrValAsnAspIleGlnLysLeuValGlyLysLeuAsnTrpAlaSerGlnIleTyrPro
 ACTGTCAATGATATACAGAAATTGGTGGGAAAATAAATTGGGCAAGTCAGATTTATCCA
 2900
 GlyIleLysValLysGlnLeuCysLysLeuLeuArgGlyAlaLysAlaLeuThrAspIle
 GGAATTAAAGTAAAGCAATTATGTAACTCCTTAGGGGAGCAAAAGCACTAACAGACATA
 3000
 ValProLeuThrAlaGluAlaGluLeuGluLeuAlaGluAsnArgGluIleLeuLysGlu
 GTACCATTAAGTGCAGAGGCAGAATTAGAATTGGCAGAGAACAGGGAAATTTCTAAAAGAA

FIG. 7C

ProValHisGlyValTyrTyrAspProSerLysAspLeuIleAlaGluIleGlnLysGln
 CCAGTGCATGGGGTATATTATGACCCATCAAAAGACTTAATAGCAGAAATACAGAAGCAG
 3100
 GlyGlnGlyGlnTrpThrTyrGlnIleTyrGlnGluGlnTyrLysAsnLeuLysThrGly
 GGGCAAGGTCAATGGACATATCAATATACCAAGAGCAATATAAAATCTGAAAACAGGG
 LysTyrAlaArgIleLysSerAlaHisThrAsnAspValLysGlnLeuThrGluAlaVal
 AAGTATGCAAGAATAAAGTCTGCCACACTAATGATGTAAACAATTAACAGAAGCAGTG
 3200
 GlnLysIleAlaGlnGluSerIleValIleTrpGlyLysThrProLysPheArgLeuPro
 CAAAAGATAGCCCAAGAAAGCATAGTAATATGGGGAAAACCTCTAAATTTAGACTACCC
 3300
 IleGlnLysGluThrTrpGluAlaTrpTrpThrGluTyrTrpGlnAlaThrTrpIlePro
 ATACAAAAGAAACATGGGAGGCATGGTGGACAGAATATTGGCAAGCCACCTGGATCCCT
 GluTrpGluPheValAsnThrProProLeuValLysLeuTrpTyrGlnLeuGluThrGlu
 GAATGGGAGTTTGTCAATACTCCTCCCCTAGTAAACTATGGTACCAGTTAGAAACAGAA
 3400
 ProIleValGlyAlaGluThrPheTyrValAspGlyAlaAlaAsnArgGluThrLysLys
 CCCATAGTAGGAGCAGAACTTTCTATGTAGATGGGGCAGCTAATAGAGAACTAAAAAG
 GlyLysAlaGlyTyrValThrAspArgGlyArgGlnLysValValSerLeuThrGluThr
 GGAAAAGCAGGATATGTTACTGACAGAGGAAGACAAAAGGTTGTCTCCTTAAGTAAACA
 3500
 ThrAsnGlnLysThrGluLeuGlnAlaIleHisLeuAlaLeuGlnAspSerGlySerGlu
 ACAAATCAGAAGACTGAATTACAAGCAATCCACTTAGCTTTACAGGATTCAGGATCAGAA
 3600
 ValAsnIleValThrAspSerGlnTyrAlaLeuGlyIleIleGlnAlaGlnProAspLys
 GTAAACATAGTAACAGACTCACAGTATGCATTAGGGATTATTCAAGCACAACCAGATAAA
 SerGluSerGluIleValAsnGlnIleIleGluGlnLeuIleGlnLysAspLysValTyr
 AGTGAATCAGAGATTGTTAATCAATAATAGAGCAATTAATACAGAAGGACAAGGTCTAC
 3700
 LeuSerTrpValProAlaHisLysGlyIleGlyGlyAsnGluGlnValAspLysLeuVal
 CTGTCATGGGTACCAGCACACAAGGGATTGGAGGAAATGAACAAGTAGATAAATTAGTC
 SerSerGlyIleArgLysValLeuPheLeuAspGlyIleAspLysAlaGlnGluGluHis
 AGCAGTGGAAATCAGAAAGGTACTATTTTTTAGATGGGATAGATAAGGCTCAAGAAGACAT
 3800
 GluLysTyrHisSerAsnTrpArgAlaMetAlaSerAspPheAsnLeuProProIleVal
 GAAAATATCACAGCAATTGGAGAGCAATGGCTAGTGACTTTAATCTACCACCTATAGTA
 3900
 AlaLysGluIleValAlaSerCysAspLysCysGlnLeuLysGlyGluAlaMetHisGly
 GCGAAGGAAATAGTAGCCAGCTGTGATAAATGTCAACTAAAAGGGGAAGCCATGCATGGA
 GlnValAspCysSerProGlyIleTrpGlnLeuAspCysThrHisLeuGluGlyLysIle
 CAAGTAGACTGTAGTCCAGGGATATGGCAATTAGATTGCACACATCTAGAAGGAAAAATA
 4000
 IleIleValAlaValHisValAlaSerGlyTyrIleGluAlaGluValIleProAlaGlu
 ATCATAGTAGCAGTCCATGTAGCCAGTGGATATATAGAAGCAGAAGTTATCCCAGCAGAA
 ThrGlyGlnGluThrAlaTyrPheIleLeuLysLeuAlaGlyArgTrpProValLysVal
 ACAGGACAGGAGACAGCATACTTTATACTAAATTAGCAGGAAGATGGCCAGTAAAAGTA
 4100

FIG. 7D

ValHisThrAspAsnGlySerAsnPheThrSerAlaAlaValLysAlaAlaCysTrpTrp
 GTACACACAGACAATGGCAGCAATTTCCACCAGTGCTGCAGTTAAAGCAGCCTGTTGGTGG
 4200
 AlaAsnIleLysGlnGluPheGlyIleProTyrAsnProGlnSerGlnGlyValValGlu
 GCAAATATCAAACAGGAATTTGGAATTCCTACAACCCCCAAAGTCAAGGAGTAGTGAA
 SerMetAsnLysGluLeuLysLysIleIleGlyGlnValArgGluGlnAlaGluHisLeu
 TCTATGAATAAGGAATTAAAGAAAATCATAGGGCAGGTAAGAGAGCAAGCTGAACACCTT
 4300
 LysThrAlaValGlnMetAlaValPheIleHisAsnPheLysArgLysGlyGlyIleGly
 AAGACAGCAGTACAAATGGCAGTGTTTCATTACAAATTTTAAAAGAAAAGGGGGGATTGGG
 GlyTyrSerAlaGlyGluArgIleIleAspMetIleAlaThrAspIleGlnThrLysGlu
 GGGTACAGTGCAGGGGAAAGAATAATAGACATGATAGCAACAGACATACAACTAAAGAA
 4400
 LeuGlnLysGlnIleThrLysIleGlnAsnPheArgValTyrTyrArgAspAsnArgAsp
 TTACAAAAACAAATTACAAAAATTCAAAATTTTCGGGTTTATTACAGGGACAACAGAGAC
 4500
 ProIleTrpLysGlyProAlaLysLeuLeuTrpLysGlyGluGlyAlaValValIleGln
 CCAATTTGGAAAGGACCAGCAAACTACTCTGGAAAGGTGAAGGGGCAGTAGTAATACAG
 AspAsnSerAspIleLysValValProArgArgLysAlaLysIleIleArgAspTyrGly
 MetGlu
 GACAATAGTGATATAAAGGTAGTACCAAGAAGAAAAGCAAAAATCATTAGGGATTATGGA
 4600 POL
 LysGlnMetAlaGlyAspAspCysValAlaGlyGlyGlnAspGluAsp
 AsnArgTrpGlnValMetIleValTrpGlnValAspArgMetArgIleArgThrTrpHis
 AAACAGATGGCAGGTGATGATTGTGTGGCAGGTGGACAGGATGAGGATTAGAACATGGCA
 SerLeuValLysHisHisMetTyrValSerLysLysAlaLysAsnTrpPheTyrArgHis
 CAGTTTAGTAAACATCATATGTATGTCTCAAAGAAAGCTAAAAATTGGTTTTATAGACA
 4700
 HisTyrGluSerArgHisProLysValSerSerGluValHisIleProLeuGlyAspAla
 TCACTATGAAAGCAGGCATCCAAAAGTAAGTTCAGAAAGTACACATCCCACTAGGGGATGC
 4800
 ArgLeuValValArgThrTyrTrpGlyLeuGlnThrGlyGluLysAspTrpHisLeuGly
 TAGATTAGTAGTAAGAACATATTGGGGTCTGCAAACAGGAGAAAAAGACTGGCACTTGGG
 HisGlyValSerIleGluTrpArgGlnLysArgTyrSerThrGlnLeuAspProAspLeu
 TCATGGGGTCTCCATAGAAATGGAGGCAGAAAAGATATAGCACACAACCTAGATCCTGACCT
 4900
 AlaAspGlnLeuIleHisLeuTyrTyrPheAspCysPheSerGluSerAlaIleArgGln
 AGCAGACCAACTGATTCATCTGTACTATTTTGATTGTTTTTCAGAATCTGCCATAAGACA
 AlaIleLeuGlyHisIleValSerProArgCysAspTyrGlnAlaGlyHisAsnLysVal
 AGCCATATTAGGACATATAGTTAGTCCTAGGTGTGATTATCAAGCAGGACATAACAAGGT
 5000
 GlySerLeuGlnTyrLeuAlaLeuThrAlaLeuIleAlaProLysLysThrArgProPro
 AGGATCTTTACAGTATTTGGCACTAACAGCATTAATAGCACCAAAAAAGACAAGGCCACC
 5100
 LeuProSerValArgLysLeuThrGluAspArgTrpAsnLysProGlnGlnThrLysGly
 TTTGCCTAGTGTTAGGAAGCTAACAGAAGATAGATGGAACAAGCCCCAGCAGACCAAGGG

FIG. 7E

ProGlnArgGluProHisAsnGluTrpThrLeuGluLeuLeuGluGluLeuLysGlnGlu
 HisArgGlySerHisThrMetAsnGlyHis
 CCACAGAGGGAGCCACACAATGAATGGACATTAGAACTTTTAGAGGAGCTTAAGCAAGAA
 5200
 AlaValArgHisPheProArgIleTrpLeuHisSerLeuGlyGlnHisIleTyrGluThr
 GCTGTCAGACACTTTCCTAGGATATGGCTCCATAGTTTATAGGACAACATATCTATGAAACT
 TyrGlyAspThrTrpGluGlyValGluAlaIleIleArgSerLeuGlnGlnLeuLeuPhe
 TATGGGGATACCTGGGAAGGAGTTGAAGCTATAATAAGAAGTCTGCAACAACCTGCTGTTT
 5300
 IleHisPheArgIleGlyCysGlnHisSerArgIleGlyIleThrArgGlnArgArgAla
 ATTCATTTTCAGAATTGGGTGTCAACATAGCAGAATAGGCATTACTCGACAGAGAAGAGCA
 5400
 ArgAsnGlySerSerArgSer
 MetAspProValAspProAsnLeuGluProTrpAsnHisProGlySerGlnProArg
 AGAAATGGATCCAGTAGATCCTAACTTAGAGCCCTGGAACCATCCAGGGAGTCAGCCTAG
 ThrProCysAsnLysCysTyrCysLysLysCysCysTyrHisCysGlnMetCysPheIle
 GACGCCTTGTAATAAGTGTATTGTGTAAGAGTGTCTGCTATCATTGCCAAATGTGCTTCAT
 5500
 ThrLysGlyLeuGlyIleSerTyrGlyArgLysLysArgArgGlnArgArgArgProPro
 AACGAAAGGCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCC
 5600
 GlnGlyAsnGlnAlaHisGlnAspProLeuProGluGln
 TCAGGGCAATCAGGCTCATCAAGATCCTCTACCAGAGCAGTAAGTAGTATATGTAATACA
 5700
 ACCTTTAGTGATATTAGCAATAGTAGCATTAGTAGTAACGCTAATAATAGCAATAGTTGT
 GTGGACCATAGTATTTATAGAAATTAGGAAAATAAGAAGACAAAGGAAAATAGACAGGTT
 5800
 GATTGATAGAATAAGAGAAAGAGCAGAAGATAGTGGCAATGAGAGTGAGGGAGATACAGA
 MetArgValArgGluIleGlnArg
 AsnTyrGlnAsnTrpTrpArgTrpGlyMetMetLeuLeuGlyMetLeuMetThrCysSer
 GGAATTATCAAACTGGTGGAGATGGGGCATGATGCTCCTTGGGATGTTGATGACCTGTA
 5900
 IleAlaGluAspLeuTrpValThrValTyrTyrGlyValProValTrpLysGluAlaThr
 GTATTGCAGAAGATTTGTGGTTACAGTTTATTATGGGGTACCTGTGTGGAAGAAGCAA
 6000
 ThrThrLeuPheCysAlaSerAspAlaLysSerTyrGluThrGluValHisAsnIleTrp
 CCCTACTCTATTTTGTGCATCAGATGCTAAATCATATGAAACAGAAGTACATAACATCT
 6100
 AlaThrHisAlaCysValProThrAspProAsnProGlnGluIleGluLeuGluAsnVal
 GGGCTACACATGCCTGTGTACCCACGGACCCCAACCCACAAGAAATAGAAGTGGAAAATG
 ThrGluGlyPheAsnMetTrpLysAsnAsnMetValGluGlnMetHisGluAspIleIle
 TCACAGAAGGGTTTAACATGTGGAATAAACATGGTGGAGCAGATGCATGAGGATATAA

FIG. 7F

SerLeuTrpAspGlnSerLeuLysProCysValLysLeuThrProLeuCysValThrLeu
 TCAGTTTATGGGATCAAAGCCTAAACCATGTGTAAAGCTAACCCCACTCTGTGTCACTT
 AsnCysThrAsnValAsnGlyThrAlaValAsnGlyThrAsnAlaGlySerAsnArgThr
 TAAACTGCACTAATGTGAATGGGACTGCTGTGAATGGGACTAATGCTGGGAGTAATAGGA
 6200
 AsnAlaGluLeuLysMetGluIleGlyGluValLysAsnCysSerPheAsnIleThrPro
 CTAATGCAGAATTGAAAATGGAAATTGGAGAAGTGAAAACTGCTCTTCAATATAACCC
 6300
 ValGlySerAspLysArgGlnGluTyrAlaThrPheTyrAsnLeuAspLeuValGlnIle
 CAGTAGGAAGTGATAAAAGGCAAGAATATGCAACTTTTTATAACCTTGATCTAGTACAAA
 AspAspSerAspAsnSerSerTyrArgLeuIleAsnCysAsnThrSerValIleThrGln
 TAGATGATAGTGATAATAGTAGTTATAGGCTAATAAATTGTAATACCTCAGTAATTACAC
 6400
 AlaCysProLysValThrPheAspProIleProIleHisTyrCysAlaProAlaGlyPhe
 AGGCTTGTCCAAAGGTAACCTTTGATCCAATTCCCATACATTATTGTGCCCCAGCTGGTT
 AlaIleLeuLysCysAsnAspLysLysPheAsnGlyThrGluIleCysLysAsnValSer
 TTGCAATTCTAAAGTGAATGATAAGAAGTTCAATGGAACGGAAATATGTAAAAATGTCA
 6500
 ThrValGlnCysThrHisGlyIleLysProValValSerThrGlnLeuLeuLeuAsnGly
 GTACAGTACAATGTACACATGGAATTAAGCCAGTGGTGTCAACTCAACTGCTGTAAATG
 6600
 SerLeuAlaGluGluGluIleMetIleArgSerGluAsnLeuThrAspAsnThrLysAsn
 GCAGTCTAGCAGAAGAAGAGATAATGATTAGATCTGAAAATCTCACAGACAATACTAAAA
 IleIleValGlnLeuAsnGluThrValThrIleAsnCysThrArgProGlyAsnAsnThr
 ACATAATAGTACAGCTTAATGAACTGTAACAATTAATTGTACAAGGCCTGGAAACAATA
 6700
 ArgArgGlyIleHisPheGlyProGlyGlnAlaLeuTyrThrThrGlyIleValGlyAsp
 CAAGAAGAGGGATACATTTTCGGCCCAGGGCAAGCACTCTATACAACAGGGATAGTAGGAG
 IleArgArgAlaTyrCysThrIleAsnGluThrGluTrpAspLysThrLeuGlnGlnVal
 ATATAAGAAGAGCATATTGTACTATTAATGAAACAGAATGGGATAAACTTTACAACAGG
 6800
 AlaValLysLeuGlySerLeuLeuAsnLysThrLysIleIlePheAsnSerSerSerGly
 TAGCTGTAAACTAGGAAGCCTTCTTAACAAAACAAAAATAATTTTTTAATTCATCCTCAG
 6900
 GlyAspProGluIleThrThrHisSerPheAsnCysArgGlyGluPhePheTyrCysAsn
 GAGGGGACCCAGAAATTACAACACACAGTTTAAATTGTAGAGGGGAATTTTTCTACTGTA
 ThrSerLysLeuPheAsnSerThrTrpGlnAsnAsnGlyAlaArgLeuSerAsnSerThr
 ATACATCAAACTGTTTAATAGTACATGGCAGAATAATGGTGCAAGACTAAGTAATAGCA
 7000
 GluSerThrGlySerIleThrLeuProCysArgIleLysGlnIleIleAsnMetTrpGln
 CAGAGTCAACTGGTAGTATCACACTCCCATGCAGAATAAAACAAATTATAAATATGTGGC
 LysThrGlyLysAlaMetTyrAlaProProIleAlaGlyValIleAsnCysLeuSerAsn
 AGAAAACAGGAAAAGCTATGTATGCCCTCCCATCGCAGGAGTCATCAACTGTTTATCAA
 7100
 IleThrGlyLeuIleLeuThrArgAspGlyGlyAsnSerSerAspAsnSerAspAsnGlu
 ATATTACAGGGCTGATATTAACAAGAGATGGTGGAAATAGTAGTGACAATAGTGACAATG
 7200

FIG. 7G

ThrLeuArgProGlyGlyGlyAspMetArgAspAsnTrpIleSerGluLeuTyrLysTyr
AGACCTTAAGACCTGGAGGAGGAGATATGAGGGACAATTGGATAAGTGAATTATATAAAT
LysValValArgIleGluProLeuGlyValAlaProThrLysAlaLysArgArgValVal
ATAAAGTAGTAAGAATTGAACCCCTAGGAGTAGCACCCACCAAGGCAAAGAGAAGAGTGG
7300
GluArgGluLysArgAlaIleGlyLeuGlyAlaMetPheLeuGlyPheLeuGlyAlaAla
TGGAAGAGAAAAAAGAGCAATAGGACTAGGAGCCATGTTTCCTTGGGTCTTGGGAGCAG
GlySerThrMetGlyAlaAlaSerLeuThrLeuThrValGlnAlaArgGlnLeuLeuSer
CAGGAAGCACGATGGGCGCAGCGTCACTAACGCTGACGGTACAGGCCAGACAGTTACTGT
7400
GlyIleValGlnGlnGlnAsnAsnLeuLeuArgAlaIleGluAlaGlnGlnHisLeuLeu
CTGGTATAGTGCAACAGCAAAACAATTTGCTGAGGGCTATAGAGGCGCAACAGCATCTGT
7500
GlnLeuThrValTrpGlyIleLysGlnLeuGlnAlaArgValLeuAlaValGluArgTyr
TGCAACTCACGGTCTGGGGCATTAAACAGCTCCAGGCAAGAGTCTTGGCTGTGGAAAGAT
LeuGlnAspGlnArgLeuLeuGlyMetTrpGlyCysSerGlyLysHisIleCysThrThr
ACCTACAGGATCAACGGCTCCTAGGAATGTGGGCTTGCTCTGGAAAACACATTTGCACCA
7600
PheValProTrpAsnSerSerTrpSerAsnArgSerLeuAspAspIleTrpAsnAsnMet
CATTTGTGCCTTGGAACCTAGTTGGAGTAATAGATCTCTAGATGACATTTGGAATAATA
ThrTrpMetGlnTrpGluLysGluIleSerAsnTyrThrGlyIleIleTyrAsnLeuIle
TGACCTGGATGCAGTGGGAAAAAGAAATTAGCAATTACACAGGCATAATATACAACCTAA
7700
GluGluSerGlnIleGlnGlnGluLysAsnGluLysGluLeuLeuGluLeuAspLysTrp
TTGAAGAATCGCAAATCCAGCAAGAAAAGAAATGAAAAGGAATTATTGGAATTGGACAAGT
7800
AlaSerLeuTrpAsnTrpPheSerIleSerLysTrpLeuTrpTyrIleArgIlePheIle
GGGCAAGTTTGTGGAATTGGTTTAGCATATCAAATGGCTGTGCTATATAAGAATATTCA
IleValValGlyGlyLeuIleGlyLeuArgIleIlePheAlaValLeuSerLeuValAsn
TAATAGTAGTAGGAGGCTTAATAGGTTTAAGAATAATTTTTGCTGTGCTTTCTTTAGTAA
7900
ArgValArgGlnGlyTyrSerProLeuSerLeuGlnThrLeuLeuProThrProArgGly
ATAGAGTTAGGCAGGGATACTCACCTCTGTCGTTGCAGACCCTCCTCCCAACACCGAGGG
ProProAspArgProGluGlyIleGluGluGluGlyGlyGluGlnGlyArgGlyArgSer
GACCACCCGACAGGCCCGAAGGAATAGAAGAAGAAGGTGGAGAGCAAGGCAGAGGCAGAT
8000
IleArgLeuValAsnGlyPheSerAlaLeuIleTrpAspAspLeuArgAsnLeuCysLeu
CAATTCGATTGGTGAACGGATTCTCAGCACTTATCTGGGACGACCTGAGGAACCTGTGCC
8100
PheSerTyrHisArgLeuArgAspLeuLeuLeuIleAlaThrArgIleValGluLeuLeu
TCTTCAGTTACCACCGCTTGAGAGACTTACTCTTAATTGCAACGAGGATTGTGGAACCTC
GlyArgArgGlyTrpGluAlaLeuLysTyrLeuTrpAsnLeuLeuGlnTyrTrpGlyGln
TGGGACGCAGGGGGTGGGAAGCCCTCAAATATCTGTGGAATCTCCTGCAATATTGGGGTC
8200

FIG. 7H